GOVERNMENT OF WESTERN NIGERIA

ANNUAL REPORT

of the

Ministry of Agriculture and Natural Resources

(Extension Services Division)

for the year

1st April, 1958 to 31st March, 1959

Laid on the Tables of the Western Nigeria Legislature as Sessional Paper No. 10 of 1962

COMMONWEALTH MYCOLOGICAL INSTITUTE
28 SEP 1962

PRICE: ONE SHILLING

FOREWORD

This is the first annual report of the Extension Services Division which took over the agricultural extension functions of the Department of Agriculture, which ceased to exist as such when all the Departments of Ministry were integrated on 1st April, 1958.

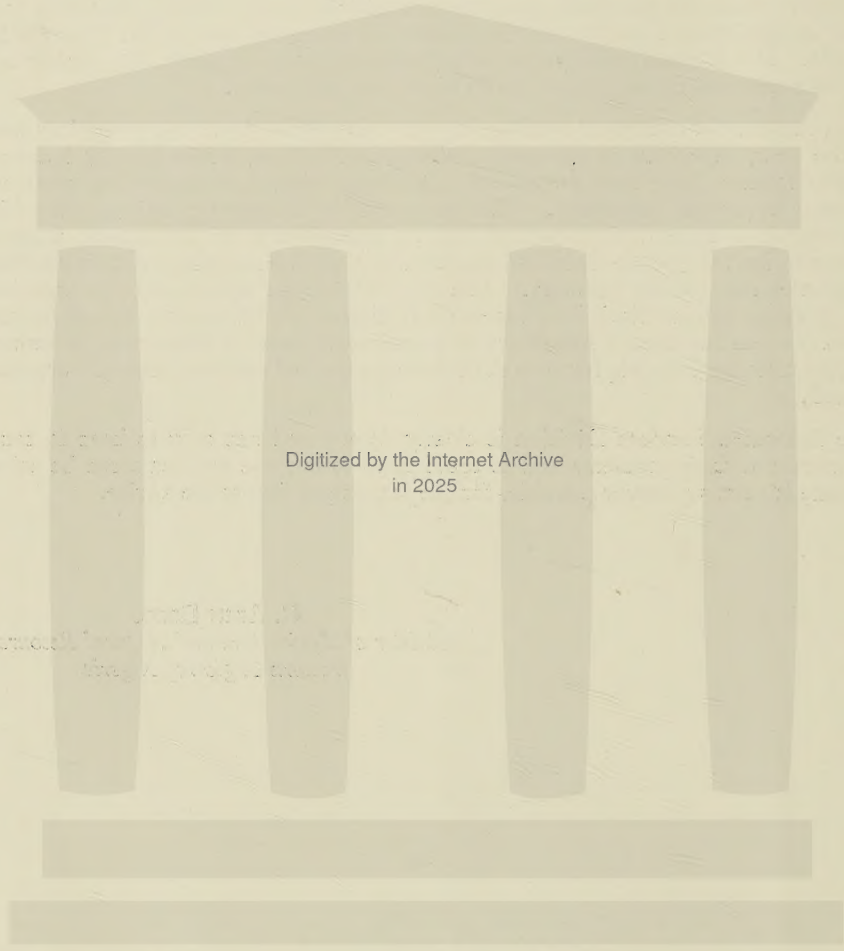
The new organisation resulting in the establishment of Circle offices at Abeokuta, Akure, Benin and Ibadan, and the posting of junior staff to serve well-defined areas containing a limited number of farms, has established closer contact with farmers and is designed to expand as the work of the Division increases and the requirements of farmers increase in numbers and complexity.

In spite of the loss of a number of experienced staff and the additional work and responsibility which has devolved upon the younger members of staff, additional work has been undertaken and steady, and in one or two instances, spectacular progress has been made. It has been possible to report improvements in both the quality and quantity of exports of cocoa, rubber, palm oil, citrus and cotton.

The prospects for continued increase in production for all these crops were improved during the year, especially in the case of cocoa and rubber, where greatly increased numbers of farmers have been persu ded to undergo training in controlling pests and diseases and improved husbandry. The prospects for increased plantings using high yielding seedlings have been improved by the introduction of the system whereby farmers are trained to operate their own nurseries instead of purchasing all their seedlings from nurseries run by the Ministry. The new scheme for subsidising the chemicals used in spraying against Black Pod Disease and Capsids which was announced towards the end of the year has already stimulated an enormous increase in the number of farmers applying for training and a big increase in the acreage sprayed can be confidently expected next season.

The Extension Services Division is clearly determined not only to keep in touch with farmers and their problems and to teach them how these problems can be solved but to make it easy, whenever possible, for the farmers to follow the advice.

G. Akin Deko,
Minister of Agriculture and Natural Resources,
Western Region of Nigeria



Digitized by the Internet Archive
in 2025

https://archive.org/details/annual-report-ministry-of-agriculture-food-technology-za_april-1958-march-1959

CONTENTS

Subject	*Page*
A.—Foreword	*i*
B.—Introduction	1–2
(*a*) Policy	1
(*b*) Organisation	1
(*c*) Staff	2
(*d*) Visits abroad—conferences, etc.	2
C.—Weather in relation to crops	2–3
D.—Review of Export Crops	3–7
(*a*) Cocoa	3
(*b*) Rubber	5
(*c*) Oil Palm Products	5
(*d*) Coffee	6
(*e*) Cotton	7
(*f*) Citrus	7
E.—Review of Major Food Crops	7–8
F.—Extension Work Activities	8–16
(*i*) General	8
(*ii*) Cocoa	8
(*iii*) Oil Palm	11
(*iv*) Rubber	13
(*v*) Cotton	14
(*vi*) Coffee	14
(*vii*) Citrus	14
(*viii*) Grapefruit	14
(*ix*) Food Crops	15
(*x*) Seminars and Conferences	16
G.—Settlement Scheme	16–17
H.—Crop Processing	17
I.—Agricultural Engineering and Mechanisation	17
J.—Livestock Extension Activities	18
(*a*) Poultry	18
(*b*) Cattle	18
K.—Agricultural Shows	18–19
L.—Agricultural Credit	19
M.—Agricultural Stations and Demonstration Farms	20–1
N.—Investigations	21–2
O.—Pests and Diseases	22–3
(*a*) Swollen Shoot Control	22
(*b*) Cushion Gull	23
(*c*) Bacterial Stalk nut of Maize	23

APPENDIXES

A.—Senior Staff Disposition at 31-3-59 24
B.—Farmers trained in Capsid and Black Pod Control, by Circles 25
C.—Numbers of Cocoa Nurseries by Circles 25
D.—Numbers and size of Cocoa Demonstration Plots 26
E.—Distribution of Cocoa Seedlings by Circles, 1958-59 ... 27
F.—Annual Cocoa Production, Western Region, for the period 1943 to 1959... 28
G.—Average Cocoa Production based on four-year totals ... 28
H.—Cocoa trees cut out to control Swollen Shoot 29
I.—Rainfall Records from selected stations 31

ANNUAL REPORT OF EXTENSION SERVICES DIVISION MINISTRY OF AGRICULTURE AND NATURAL RESOURCES WESTERN REGION, 1958-59

B.—INTRODUCTION

(*a*) Policy

During the year there were no major changes in the Ministry's policy which continued to be the development and utilisation of the natural resources of the Region for the benefit of all its inhabitants.

(*b*) Organisation

2. There were, however, two major changes in the organisation of the Ministry. Until 31st March, 1958 the Ministry consisted of four Departments, namely, Agriculture, Fisheries, Forestry and Veterinary, each under a Director who was responsible to the Minister through the Permanent Secretary for all aspects of his Department's work. As from the 1st April, 1958, these Departments were "integrated" so that all the routine administrative work of the Ministry became the responsibility of an Administration Division, the Departments were renamed Divisions and a Divisional Chief was made responsible for the work of each of these Divisions. In addition, the bulk of the work of the Department of Agriculture was shared between two Divisions, namely, the Agricultural Extension Services Division, under a Chief Agricultural Extension Services Officer, which was made responsible for all agricultural work of the old Department with the exception of Research, which now became the responsibility of the Agricultural Research Division. The Poultry Development Centre, Fashola Stock Farm and Agege Dairy, previously under the Department of Agriculture, were taken over by the Veterinary Department now renamed the Livestock Division. The co-ordination of the work of these three "agricultural" Divisions became the responsibility of the Under-Secretary for Agriculture who also had direct executive responsibility for the Schools of Agriculture. The Director of Agriculture, Mr H. H. Croucher, took over the duties of the Under-Secretary in April but retired shortly afterwards and was succeeded by Mr D. H. Welch, who had been Deputy Director of Agriculture, but he also retired before the end of the year, and the post of Under-Secretary was then abolished.

3. The other major re-organisation concerned the internal structure of the Agricultural Extension Services Division. Under the Department of Agriculture, supervision of work in the field had been the responsibility of nine Provincial Agricultural Officers who were responsible to an Assistant Director of Agriculture (Extension), who had the assistance of two Principal Agricultural Officers at Headquarters. As from the 1st April, 1958, the twenty-six Administrative Divisions of the Region were regrouped for agricultural purposes in four Circles with Headquarters at Abeokuta, Akure, Benin and Ibadan. A Senior Agricultural Officer, later upgraded to Principal Agricultural Officer, was put in charge of each Circle. The Divisions within a Circle were, as far as staff permitted, made the responsibility of an Agricultural Officer or experienced Senior Agricultural Superintendent. The professional staff in the Headquarters of the Extension Services Division now consisted of the Chief Agricultural Extension Services Officer and two Principal Agricultural Officers, who were later upgraded to Assistant Chief Agricultural Extension Services Officers.

4. In addition to the establishment of the circle organisation, each Division was divided into areas of responsibility of approximately five miles in radius for allocation to Field Overseers. Four to six of such Field Overseer areas were grouped into a Zone and allocated to an Agricultural Assistant. Where justified, two or more such zonal Agricultural Assistants were supervised by a member of the Agricultural Superintendent

cadre. Since the majority of farmers are illiterate, most effective advisory work is done through meetings or individual personal contact. It is hoped by placing a representative of the Ministry within five miles of every farmer and by ensuring close supervision and frequent briefing, to make the fullest use of the limited number of fully trained staff at present available. In each case the residence, and where appropriate, the office, of the Ministry's representative have been clearly labelled in order to ensure that every farmer knows where the representative for his area can be found.

5. In order to bring all agricultural extension activities under unified control, the agricultural activities of all Local Government Councils were either taken over by the Division or, if they were not considered to be justified, the Councils were advised, through the Ministry of Local Government, to discontinue them. Permanent and pensionable agricultural staff of Local Authorities was absorbed by the Ministry as Field Overseers or Agricultural Assistants.

(*c*) Staff

6. During the year the following officers proceeded on leave pending retirement:—

H. H. Croucher	Director of Agriculture
D. H. Welch	Deputy Director of Agriculture
P. Adames	Assistant Director of Agriculture
V. E. Gale	Assistant Director of Agriculture
D. H. Wheeler	Agricultural Officer
F. M. Inns	Agricultural Engineer.

Mr F. M. Barrett, a graduate of Reading University, joined the staff as Agricultural Officer after completing two years post-graduate training at Cambridge and the Imperial College of Tropical Agriculture in Trinidad. Mr F. O. Aboaba, a graduate of the University College, Ibadan, joined the staff as an Agricultural Officer.

(*d*) Visits Abroad

7. The following paid visits abroad for various purposes during the course of the year:—

(*i*) Chief Agricultural Extension Services Officer attended a meeting of the Managing Committee of the West African Cocoa Research Institute in Ghana in December 1958.

(*ii*) In February 1959 the Chief Agricultural Extension Services Officer, and Mr J. A. Makinde, Principal Agricultural Officer, attended the first F.A.O. Technical Conference on Cocoa in Ghana as part of the Nigerian delegation.

(*iii*) Mr T. S. B. Aribisala accompanied Honourable Minister of Agriculture on a visit to Israel in February 1959 and subsequently paid a visit to Liberia mainly with a view to studying the Liberian Rubber Industry.

(*iv*) In June 1958 Mr M. A. Akintomide, Senior Agricultural Officer, accompanied the Minister on a visit to Israel.

(*v*) Between November 1958 and February 1959 Mr J. A. Ayorinde, Officer in charge of Cocoa Survey, led a delegation of Farmers' representatives in Israel at a Pan-African Conference on co-operatives.

C.—WEATHER CONDITIONS IN RELATION TO CROPS

8. The year was characterised by less than average rainfall throughout the entire planting season. The shortfall was particularly marked in July which is usually a fairly wet month with averages at various stations throughout the Region ranging from 4.7 inches up to 10.00 inches; this year the highest recorded precipitation for July was 2.65 inches and many areas had no rain during the month. The following data from a few stations representative of different ecological zones of the Region, illustrate the extent to which rainfall during the planting season was below normal.

Table I

	Shaki		*Fasholc*		*Akure*		*Ijebu-Ode*		*Okitipupa*		*Ogba (Benin)*	
	1958	*Average*	*1958*	*Average*	*1958*	*Average*	*1958*	*Average*	*1958*	*Average*	*1958*	*Average*
March	1.55	1.20	1.77	3.60	2.70	4.18	4.70	3.86	3.97	5.23	0.13	6.63
April	2.80	3.51	7.36	4.40	4.24	5.58	2.17	4.95	6.72	8.28	11.64	6.65
May...	4.33	5.99	4.77	6.20	3.15	6.94	6.99	7.94	11.71	9.88	16.22	7.61
June	3.63	6.06	3.06	6.60	10.00	7.87	10.83	9.27	20.37	12.96	15.87	11.96
July	0.00	6.20	0.06	4.70	0.47	7.36	0.00	9.26	1.90	17.22	1.21	15.89
August	0.80	6.31	1.94	2.30	2.35	4.56	2.41	4.26	5.59	7.37	6.00	8.11
September	6.34	5.64	8.60	7.80	7.26	8.23	11.21	7.84	12.54	13.10	10.91	12.87
TOTAL ...	19.45	34.91	27.56	35.60	30.17	44.72	38.31	47.38	62.80	74.04	61.91	69.72

9. The dry weather during this period was in sharp contrast to the conditions which had prevailed in the previous year. This relatively low rainfall was beneficial in facilitating the harvesting of the oil palm and food crops and the spraying operations against Black Pod and Capsid of Cocoa but its effect in other respects was deleterious. Yields of food crops were reduced throughout the Region, particularly where there was delay in planting. Yields of rice were below average and maize and cowpea yields were reduced, particularly in the northern areas. Yams were adversely affected, particularly the later plantings. This failure of the early rains caused some anxiety over the adequacy of food supplies but fortunately the planting rains for the late season food crops in September were generally good and precipitation was adequate throughout the late season so that yields of food crops were up to average.

10. Cotton is usually planted during June or July. The lack of rains in July restricted the acreage planted and the dry conditions in July and August resulted in poor establishment, stunted growth and poor yields of even the early plantings.

11. Harvesting, drying and spraying of perennial crops was facilitated and disease incidence tended to be lower, but the acreage of new plantings was severely restricted. The tendency to devote April and May to the establishment and maintenance of food farms means that the planting of new farms of cocoa, rubber and oil palm tends to be delayed until June and July. This year even those seedlings planted in June had a struggle to survive, no planting was possible during the drought in July and August, and September is generally too late for successful establishment. Consequently many farmers who intended to establish cocoa farms and others who were proposing to increase their holdings were unable to do so. A relatively large proportion of the seedlings established for sale by the Ministry were left unsold at the end of the season.

D.—REVIEW OF EXPORT CROPS

(*a*) Cocoa

12. After the very low level of production achieved in 1957-58, when only 73,579 tons of cocoa were graded in the Region, production increased considerably in 1958–59. The crop, at 127,319 tons, was considerably above average and was the second highest on record, having previously been exceeded only by the 1956-57 production of 135,673 tons. It is now apparent that the main factor responsible for the decline in production in 1957-58 was the excessive rainfall throughout the cocoa-growing area. The months in which the rainfall was markedly high were May and the months of July to October. The following table illustrates the difference between the precipitation received and the average for a few selected stations in the cocoa area.

	Abeokuta		*Ibadan*		*Ilesha*		*Ijebu-Ode*		*Akure*		*Ondo*	
	1957	*Average*	*1957*	*Average*	*1957*	*Average*	*1957*	*Average*	*1957*	*Average*	*1957*	*Average*
May...	16.93	6.15	8.26	5.93	19.91	6.27	13.82	7.66	10.9	6.82	9.27	7.13
July to October (incl.)	34.90	19.54	33.26	22.35	35.72	26.63	47.57	28.84	42.46	26.12	55.19	32.77
ANNUAL TOTAL	72.19	45.17	60.17	46.80	76.69	49.93	88.88	59.78	76.73	60.29	95.99	64.74

The effect of the weather in decreasing production was manifest not only in the increased incidence of Black Pod Disease but in the increased difficulty and expense of spraying, owing to the need to respray, as the fungicide was removed by the frequent

heavy showers. Sufficiently frequent harvesting as well as the evacuation of beans from the farms to farmers' homes was rendered more difficult and, owing to difficulties in drying, losses due to mould were increased. There is no doubt however that the major portion of the decline was due to Black Pod Disease.

13. The difference between the 1957-58 crop of 73,579 tons and the 1956-57 crop of 135,673 tons and the 1958-59 crop of 127,319 tons therefore illustrates the importance of control measures.

14. Recommendations for the control of capsids by spraying first became available in February 1957 and a propaganda campaign and courses for the training of farmers in the use of the recommended insecticide (Gammalin 20) were started immediately. During 1957, 14,625 farmers were trained and some spraying was done. During 1958 a further 17,805 farmers were trained bringing the total to 32,430 farmers trained in capsid control and 60,000 gallons of Gammalin were purchased by farmers. Since severe capsid damage is very widespread it is clear that only a fraction of the farmers affected have so far come forward for training. It may not be without significance that the number of farmers trained in the control of capsids is very similar to the number of farmers who have been trained in the control of Black Pod during the four years since training started in 1954, *i.e.*, 29,659.

15. The damage being done by capsids to cocoa farms throughout the Region is severe and increasing every year but a large proportion of farmers would find it difficult —especially under the conditions of reduced yield resulting from capsid attack—to afford the outlay involved in spraying against both Black Pod and Capsids in anticipation of increased crops. It has therefore been decided to introduce a scheme whereby the approved fungicides and insecticides for use in the control of Black Pod and Capsids will be sold to farmers at subsidised prices. In this connection it should be borne in mind that a large proportion of the cocoa farmers have 1.25 acres of cocoa or less and that one survey has indicated that some 40 per cent of farmers sell less than 5 cwts of cocoa annually, thus they receive a gross income of less than £35 per annum from cocoa.

16. The decision to refrain from cutting out trees infected with Swollen Shoot within the heavily infested area around Ibadan, *i.e.*, the Area of Mass Infection, was maintained during the year. Furthermore, no new planting was encouraged within this area. The realisation that the strain of the Swollen Shoot Virus commonly found in this area is not lethal in the absence of other debilitating factors such as capsid attack, led to a decision to encourage and train farmers to spray against Capsids and Black Pod and assist them with loans where required. The possibility of replanting in the Area of Mass Infection in a manner which would reduce to the minimum the risk of reinfection with swollen shoot is also being examined.

17. In order to facilitate the process of farm establishment using high-yielding seedlings, a major step taken during the year was the encouragement of farmers to establish their own nurseries using seed purchased from the Ministry, and seedling pots, watering cans and wire-netting loaned by the Ministry. The establishment of nurseries under Ministry supervision near to the planting site should reduce the cost of the seedlings by eliminating the need for transporting the seedlings over long distances and also increase the chances of successful establishment. The number of seedlings being produced still falls far short of the demand and this is undesirable in view of the need to increase, as rapidly as possible, the acreage of cocoa which is established with high-yielding plant material in units large enough to provide full-time employment and a reasonable standard of living for the farming family. Present plans provide for the establishment of eight million seedlings for distribution in 1960 and ten millions in the following year. This programme based on the expected availability of seed may be capable of upward revision if seed becomes available more rapidly than expected.

(*b*) Rubber

18. The production of rubber made further progress during the year and exports increased to 40,710 tons compared with 34,815 tons in 1957-58.

19. Rubber is third in order of importance among the export crops of the Region. Cultivation started in the Benin-Delta area about 1910 and later spread to other parts of the Region. Even now the bulk of the production comes from Benin and Delta Provinces and only small quantities from Ondo and Ijebu Provinces. It is estimated that the acreage of rubber in the Region is approximately 300,000 acres mostly in units of one or two acres. Originally, much of this rubber can be seen to have been properly tapped but in recent years the tapping has been taken over by itinerant tappers who rent the farms for limited periods, usually on a share cropping basis. The main concern of these itinerant tappers is the maximum of profit in the short term for the minimum of expenditure of time and effort. The trees have been dreadfully mutilated, maintenance is neglected and the farms are consequently liable to have fires through them during the dry season. Volunteer seedlings are allowed to survive, thereby adding to the overcrowding in farms which were already too densely planted at 600 trees per acre with no subsequent thinning. In the absence of proper processing facilities the individual tapper usually produces each day 6 to 8 lb of dry rubber consisting of dark sheets of uneven thickness, inadequately dried and usually containing an excessive amount of foreign matter. Such sheets, classified as Nigerian B 2, are estimated to be about two grades lower than RSS. V.

20. A campaign has been started to convince farmers of the losses they are suffering as a result of sharing the proceeds of their farms with tappers who produce B 2 sheet instead of RSS. I. It is hoped that interest will thus be stimulated in rubber as a means of livelihood, and that farmers will wish to undertake planting or replanting with potentially high-yielding planting material, to bring their farms to a size adequate to provide full-time employment. Considerable interest has been stimulated by this Rubber Improvement Campaign—details of which are given under section F—and the demand for improved seedlings has already exceeded the supply. A Rehabilitation Scheme is under consideration. This will be designed to assist farmers with the expense of replanting as well as to provide some income while they wait for the newly planted rubber to come into production.

21. A recent development which is tending to frustrate the attempts to establish the rubber industry on a sound basis is a considerable increase in the number of factories being established for converting coagulated latex (wet lump), cup lump and scrap into Blanket Crepe. Whereas, for sheet production the itinerant tapper devotes his time to tapping 300 trees and processing the resultant latex into sheet worth 5*s* to 8*s*, he can, by devoting the same period of time exclusively to tapping and selling the resultant coagulum direct to a crepeing factory, earn a much larger income. The disadvantage to the country is that this increases his capacity to destroy the existing rubber by slaughter-tapping and encourages the convertion of latex which is potentially first grade sheet into less valuable crepe rubber.

22. In response to a demand from producers in the Midwest, a Working Party was appointed to examine the present system of marketing rubber, and to consider whether there would be any advantage in marketing being undertaken by the Marketing Board.

(*c*) Oil Palm

23. The bulk (over 90 per cent) of the Palm Oil produced in the Western Region comes from palms which grow wild. As these palms grow old and their production declines, it is unlikely, under increasing population pressure on the land, that they will be replaced by an equal number of young volunteer plants growing up in secondary bush and forest.

24. There are no records showing the quantity of oil consumed locally or the quantities exported from the Western Region to the Eastern and Northern Regions but all these are considered to be on the increase. The following table gives quantities of Palm Oil and Palm Kernels exported over the last seven years:—

Year	*Palm Oil (Tons)*	*Palm Kernel (Tons)*
1952	22,325	189,760
1953-54	29,255	206,018
1954-55	26,365	219,279
1955-56	24,087	208,352
1956-57	18,666	222,193
1957-58	15,815	191,202
1958-59	17,264	218,327

The following are considered to be possible reasons for the decline in exports of Palm Oil from Western Region:—

(*i*) Increase in local consumption due to the increase in the population and the improvement in the standard of living.

(*ii*) Decline in production resulting from an increasing tendency for the younger generation in the Western Region, a large proportion of whom have attended school, to prefer other forms of occupation to the risky and arduous process of climbing palms and extracting oil by the traditional methods.

A large proportion of the kernels produced for export are not a by-product of oil extraction but derive from the nuts of fruit which have not been harvested but have fallen from the palms or been eaten by wild animals. Production of kernels has been stimulated by the increasing popularity of small motorised nut-crackers which have, for a small fee, eliminated the tedious process of extracting the kernels by cracking between stones.

25. A number of campaigns have been launched in an attempt to increase production of palm oil and to improve the quality of oil being produced. These have resulted in increased efficiency in processing but, in the long term, the only lasting improvement will come from the establishment of small or large plantations with high-yielding planting material and served by efficient processing factories.

26. Research and the production of improved seed continued at the West African Institute for Oil Palm Research. About 50 per cent of the Western Region's quota of seed went to the Western Region Production Development Board for the establishment of plantations. The balance was germinated in the Ministry's germinators at Ibadan, Ogba Farm (Benin) and Effurun, the seedlings grown in nurseries in various parts of the Region and sold to farmers. The demand for improved seedlings is not yet very great, except in one small area close to the Cowan Estate at Ajagbadudu, where the purchase by the estate of both wild and cultivated palm fruit has stimulated interest.

(*d*) Coffee

27. There are known to be some 7,600 acres of coffee in the Region and, in spite of low yields, farmers are keen to increase the size of their holdings. In view of overproduction in the world market it is considered that the first step, before giving any active encouragement to local farmers, is to discover the means whereby local production can be placed on a really efficient basis. With this end in view, research is being undertaken to find the best varieties, the spacing, shade, pruning and fertilizer practices which will give the best results and also to find the best means of controlling the Berry Borer (*Stephanoderes hampei*). The programme of research is being undertaken by a specialist made available by the United States of America under the I.C.A. Programme.

(*e*) Cotton

28. A total of 4,915,841 lbs of seed cotton was purchased in 1958 as compared with 3,292,422 lbs in 1957.

29. In spite of low yields and the small financial return, farmers in the savannah area are keen to grow cotton. This is thought to be due to the fact that cotton is interplanted in food crops and consequently little additional effort is required for its production. Furthermore, the harvesting of cotton is done during the dry season when other demands on labour are not heavy, under-employment is the rule and money is scarce.

(*f*) Citrus

30. *Export Scheme.*—The export of grapefruit, and to a lesser extent lemons, was continued in 1958. The quantity of grapefruit exported rose from 320,887 lb in 1957 to 338,556 lb in 1958. The scheme for the export of citrus was initiated by the Department of Agriculture in 1957 and was operated this year by the Ministry of Trade and Industry through the Western Region Marketing Board with an Israeli Citrus expert in direct control. The quality of fruit was considerably better than in 1957 and this led to an increased price in the United Kingdom. Fruit was collected from Abeokuta and Ibadan Circles and the packing was carried out at Abeokuta. The cost of purchase and transport to Lagos was reduced from 31*s* 11*d* per case in 1957 to 22*s* 9*d* in 1958 and the price realised rose from 22*s* 6*d* to 29*s*. Thus a deficit of 9*s* 5*d* per case in 1957 for 4,391 cases became a profit of 6*s* 3*d* per case on 4,990 cases in 1958.

E.—REVIEW OF MAJOR FOOD CROPS

31. In general, the supply of locally grown food has been adequate to meet all demands. Retail prices rose during May and June but on average remained the same as last year. The satisfactory early rains enabled farmers to plant their early crops in good time but the drought in July and early August seriously affected the yields of maize and yams, particularly in the north of the Region. The rice crop throughout the Region has been very disappointing. Those yams planted during November to February, 1957-58 were virtually unaffected by the drought but yams planted with the first rains in March and April gave very poor yields. Late season crops were generally about average except in Oyo Division where the low rainfall persisted until September and the late rains were below average.

32. *Ibadan Circle.*—Early maize was seriously affected by the drought in July and early August and yields were well below average. The rice crop was established well and then became a virtual failure due to the dry weather. The late maize crop was a little above average except in Oyo division where the drought persisted into late August and September. Average retail prices for Oyo market for 1957-58 and 1958-59 showed a small increase in the price of yams and maize and a decrease in the price of "Gari".

33. *Akure Circle.*—Adequate early rains encouraged the early growth of maize, yams, cassava and rice. While cassava yields were unaffected by the drought, maize, yams and particularly rice produced yields well below average. Many farmers visited the Yam and Maize fertilizer trials in the circle and were impressed by the results of planting yams between November and March instead of the normal planting time of April to June.

34. *Benin Circle.*—Yields of food crops in upland areas were below average but in swamp areas yields were above average due to the late flooding. There was evidence of increased interest in food farming in the large number of farmers that visited early yam planting trials and fertilizer experiments. The dry weather helped the efficient distribution of food and no shortage developed. There was a noticeable increase in rice cultivation. A pilot rice scheme to investigate the possibility of developing the large

area of mangrove swamp was started near the Forcados Road Swamp near Warri during January 1959. Twenty-seven Rice Mills, seventy-two Corn Mills and 173 "Gari" mills were in operation throughout the year. Average retail prices collected from various markets show a very small reduction in the retail price for yams, maize and rice and a rise in the price of "gari" compared with 1957-58.

35. *Abeokuta Circle.*—Yields of early Maize and upland rice were seriously affected by the long spell of dry weather in July and August. Late crops were about average. No food shortages developed, but prices were generally a little higher than during the previous year.

36. Extension Division gave every assistance in the Research being undertaken by West African Maize Research Unit to produce varieties resistant to Maize Rust and with higher yielding potential, including the conduct of variety trials at various stations in the Region.

37. It is appreciated that the need exists for greatly increased productivity of pastures and for higher-yielding varieties of legumes which can play a part in fertility maintenance and the improvement of the local diet, which is known to be deficient in protein. These problems are being tackled by a number of scientists kindly provided by the United States of America under its I.C.A. programme.

F.—EXTENSION WORK ACTIVITIES

(*i*) General

38. The allocation of field staff on the basis of one man to an area of about five miles in radius has laid the foundation of an advisory service capable of advising the farmer on his day-to-day problems and of following-up advice and observing the results. Each member of the field staff after being thoroughly briefed at the beginning of the month is able to hold meetings in all the villages in his area advising farmers on the activities and problems of the ensuing month. In addition, he visits all farmers as often as possible but a number of selected farmers are visited regularly every month to ensure that the advice is correctly applied and to observe the results. By keeping field staff in an area over an extended period it is hoped to build up sound knowledge of the farmers and their needs and to establish the farmers' confidence in the Extension Workers.

(*ii*) Cocoa

(*a*) Capsid and Black Pod Disease Control

39. Training of farmers in the technique of controlling Black Pod and Capsids was continued during the year. Courses in Black Pod or Capsid control lasted for three days. Training in Black Pod control continued during March and April while Capsid control courses continued until July. The numbers of farmers coming forward for training in Black Pod control tended to decline, as shown in the table in the appendix, whereas the demand for training in Capsid control has increased. The numbers of farmers trained in each circle were as follows:

	1958			*To-date*		
	Capsid	*B. P.*	*Total*	*Capsid*	*B.P.*	*Total*
Ibadan	3,537	1,333	4,870	6,901	5,648	12,549
Abeokuta	1,400	1,077	2,477	1.763	2,122	3,885
Ondo	11,007	—	11,007	21,466	19,587	41,053
Benin	1,861	1,355	3,216	2,300	2,302	4,602
Total	17,805	3,765	21,570	32,430	29,659	62,089

40. Demonstration Plots which were sprayed according to recommendations were maintained throughout the cocoa-growing areas and demonstrated most markedly the effect of the control measures. A total of eighty-three such Demonstration Plots occupying 385 acres was maintained. A further twenty-eight plots demonstrated methods of rehabilitating farms which had been badly devastated by capsids.

41. Loans were made available to farmers by the Finance Corporation for the purchase of pumps and the insecticides and fungicides required for control measures. The demand for insecticides for capsid control exceeded expectations. The commercial firms responsible for distribution were temporarily unable to meet the demand and a "black market" developed which resulted in farmers paying, in some cases, 80-100 per cent more than the normal retail price.

(*b*) New Plantings

42. The policy of encouraging farmers to increase their holdings by the planting of high-yielding material in the approved manner continued during the year. Owing to lack of rain during the planting period, a relatively large percentage of the seedlings established in nurseries were left unsold but 2,628,255 seedlings were purchased by farmers. For distribution in the planting season of 1959 almost five million seedlings (4,978,122) have been established. These seedlings consist entirely of Amazon varieties produced locally or imported from the West African Cocoa Research Institute or the Ministry of Agriculture in Ghana. An important development during the year has been the response of farmers to suggestions that they should establish their own nurseries under Ministry supervision. Five hundred and eighty-one (581) cocoa nurseries were established for producing seedlings for planting in 1959, made up as follows:

	Government	*Private*	*Total*
Abeokuta Circle	63	10	73
Akure Circle	129	273	402
Benin Circle	23	37	60
Ibadan Circle	39	7	46
TOTAL	254	327	581

The seedlings from the Government nurseries were sold to farmers at 2*d* each, whereas owners of private nurseries purchased their seed at 1½*d* per pod, received whale-hide pots free and were loaned wire-netting and watering cans. The Finance Corporation made loans available to enable farmers to meet the cost of seedlings and other planting expenses. In order to ensure correct spacing and to instruct farmers in the unfamiliar techniques of lining and seedling establishment, demonstrations were given at each nursery as farmers arrived to purchase their seedlings. In addition, in Akure Circle, courses were held for farmers to instruct them in the holing and lining out of their new farms.

(*c*) Fermentation and Drying

43. Propaganda continued on the need to follow the recommended technique for fermentation, and advice was given on the construction of drying platforms and artificial dryers where necessary.

(*d*) Rehabilitation

44. As a part of the scheme for the control of the Swollen Shoot Disease of cocoa by the cutting-out of infected trees and contacts, the Western Region Government has undertaken to pay compensation to owners of the trees destroyed and to take the initial steps to re-establish a crop on the land affected. This undertaking involves the establish-

ment of citrus on farms within the Areas of Mass Infection, where cocoa was cut-out before the Areas of Mass Infection was established, as well as a continuing commitment to establish cocoa or citrus or other suitable perennial crop, depending on soil suitability, in place of the cocoa being cut out annually outside the Areas of Mass Infection, as a result of the continuing survey for new outbreaks of Swollen Shoot.

45. Within the Areas of Mass Infection some 1,384 acres of citrus have so far been established and of this acreage 1,057.45 acres have been handed over to the owners leaving 331.62 acres which have been planted but are still on the maintenance schedule. A further acreage of approximately 450 remains to be planted.

46. The following table indicates the progress of rehabilitation with citrus within the Areas of Mass Infection to date:—

Date	*Acreage*	*No. of trees*
1953	35.02	2,380
1954	157.83	10,728*
1955	498.85	33,331
1956	343.59	23,379
1957	338.54	32,704
1958	24.24	2,462
TOTAL	1,389.07	104,984

* Includes 53.5 acres in the Area of Intensive Survey.

The reduced rate of planting during the year was due to a shortage of budded citrus plants and the extremely dry planting season. Unfortunately the majority of farmers to whom the replanted citrus farms were returned showed little interest in them, took no steps to continue their maintenance and the majority soon became overgrown.

47. In the *Areas of Intensive Survey* or "Cordon Sanitaire", which surrounds the Areas of Mass Infection in Ibadan and Abeokuta Provinces, continuous intensive survey and cutting-out is carried on in order to control the spread of the Swollen Shoot disease. Compensation is paid for each tree cut out and the cocoa is re-established and the farm then returned to the owner.

48. A total of 44,779 trees were cut out during the financial year 1958-59. Approximately 42 acres of the area from which cocoa was cut out in previous years have been replanted with cocoa in the Ibadan area and about sixteen acres in Abeokuta. Shade was established on a further 152 acres in Ibadan during the year preparatory to planting with cocoa in 1959.

49. In order to demonstrate to farmers how cocoa could be established in the Area of Mass Infection and be given some protection from infection with Swollen Shoot disease, five moribund cocoa farms were selected for the establishment of Demonstration Plots. After soil testing the land has been cleared and glyricidia and banana shade established. Costs to date (March 1959) have been as follows:

Site	*Acreage*	*Total Cost*			*Cost per Acre*		
		£	*s*	*d*	£	*s*	*d*
Sore	10	465	16	7	46	11	8
Orile Odo	4	211	6	6	52	16	8
Areku-Ile	4	224	19	1	56	4	9
Olanla	4	197	8	0	49	7	0
Adetonwa	10	457	6	5	45	14	8

(*iii*) Oil Palm

(*a*) Improvement Campaign

50. The Ministry has continued its efforts to move the palm oil industry from its dependence on wild palms to dependence on cultivated palms and from the production of low grade to high grade oil. Progress in the former has been very slow but there is encouraging improvement in the latter. There has been a marked improvement in the quality of Oil purchased for export. Comparative export figures in tons for the last five years are as follows:

Year	TECHNICAL PALM OIL			S.P.O.	P.P.O.	Total
	Grade I	Grade II	Grade III			
1953-54	6,456	9,018	10,008	166	3,607	29,255
1954-55	7,957	5,606	9,066	400	3,336	26,365
1955-56	8,137	5,198	7,098	307	3,347	24,087
1956-57	5,940	4,361	4,801	361	3,203	18,666
1957-58	5,596	3,624	3,124	400	3,071	15,815
Percentage Composition 1953-54	22.1	30.8	34.2	0.6	12.3	100.0
Percentage Composition 1957-58	35.4	22.9	19.8	2.5	19.4	100.0

There has been appreciable rise in the percentage of the top grades of oil namely: Plantation Palm Oil (P.P.O.), Special Palm Oil (S.P.O.) and Grade I Technical Oil and a decrease in the percentages of the lower grades. This has been due to the Ministry's Palm Oil Improvement Campaign which started in the Benin/Delta area in 1954 and in other Circles between 1956 and 1958.

51. The Palm Oil Improvement Campaign consists of demonstrating a number of changes in the existing technique of processing palm produce in order to achieve greater efficiency and the production of better quality oil. The hazards of climbing the tall old trees can be eliminated by the use of a specially designed blade attached to a long pole, known as the Malayan Cutting Knife. A number of these knives have been purchased and demonstrated throughout the Oil Palm areas. Unfortunately the length of the pole renders this implement too unwieldy for use in groves with dense undergrowth but its popularity in uniformly planted and well maintained plantations is assured. Harvesters have been taught the importance of harvesting the bunches when mature, before any rotting of fruits sets in, of sterilising the fruit as soon as possible by boiling to check the production of free fatty acids, and of keeping all vessels and utensils free of old oil. As indicated above it is believed that these measures have resulted in a substantial improvement in the quality of oil being produced. This improvement is believed to be greater than indicated by the export tonnages, owing to a tendency for increased local consumption of the higher grades of oil as these become more readily available and the standard of living improves.

52. An attempt has been made to introduce a method of extraction which is less arduous than the traditional method of pounding in a canoe-shaped trough. This consists of using the Cage Hand-Press; in this method the macerated fruit is placed in a timber cage and subjected to presure applied by means of a screw press. This method has been demonstrated in the majority of villages throughout the oil palm producing areas. The method of extraction by pressure has been well received but in some areas the need to pound the fruit in a mortar, in order to achieve the necessary maceration of the fruit before pressing, has proved unpopular.

53. As a follow-up of the demonstrations and in order to demonstrate the commercial possibilities of the method of extraction by hand-press, a few small-scale Commercial Oil Factories have been established for operation by groups of harvesters. These were

initially operated by Ministry staff, who handed them over to the groups of harvesters after a period of successful operation and after the local operator had been trained. Eleven such factories were in operation in Benin/Delta Circle during the year.

54. In addition to the Hand Press these Demonstration Centres have demonstrated the use of a small motorised nut cracker. This has proved very popular and a number of itinerant traders have purchased machines which they transport from village to village undertaking the cracking of palm nuts for a fee. A total of 123 were known to be in operation in the Region, located as follows: Benin/Delta Circle, seventy-three; Abeokuta Circle, forty-three; Akure Circle, six and Ibadan Circle, one.

55. Of the twenty-four Poineer Oil Mills originally established by the Western Region Production Development Board for the purchase and processing of locally harvested oil palm fruit only two operated during the year. One of these was sited in *Asagba* in Delta Province and the other in Colony Province; both had been taken over and were being operated by Co-operative Groups. Two mills belonging to the Western Region Production Development Board at Ewohimi and Ibusa were operated mainly to process fruit from Production Board Plantations. The mill situated at the West African Institute for Oil Palm Research continued to operate during the year.

56. Improved seed produced at the West African Institute for Oil Palm Research was sold as seedlings to farmers for planting during the year as follows:

Benin Circle	25,632	from fourteen nurseries
Akure Circle	3,398	from five nurseries
Abeokuta Circle	178	from two nurseries
TOTAL	29,208	

A portion of the seed received in 1958 has been germinated and established in trays for subsequent establishment in nursery beds. A total of 122,115 tray seedlings are available. Germination percentages of this seed were below expectation. The out-turn for the three germinators was as follows:

	Percentage
Ibadan (Electric)	6
Effurum (Water-heated)	12
Ogba Farm (Oven-Type)	28.6

The balance of the seed received from the Oil Palm Research Institute during 1958 has been supplied to the Western Region Development Corporation for the establishment of their plantations.

(*b*) Palm Oil Factory, Asejire (Ibadan Province)

57. A co-operative group at Asejire has established 146 acres of Oil Palms which are now beginning to come into bearing. This acreage is not adequate to support a Pioneer Oil Mill and Extension Division therefore arranged to supply them with a Cage Hand-Press and to instruct them in its use. In addition to processing the fruit from their plantation the group were able to purchase almost forty-five tons of fruit from other local sources at 5*s* 6*d* per cwt.

The following quantities of produce were handled during the year:—

Weight of fruit harvested	33,366 lbs
Weight of fruit purchased	98,004 lbs
Weight of oil produced	14,999 lbs
Weight of Kernels produced	6,896 lbs

58. *Group Farms:* The co-operative farms at Apomu and Alade continued to make good progress. A few trees on the Apomu plantation started to bear during the year.

(*iv*) Rubber

59. The Rubber Improvement Campaign which was started in 1957, continued during the year. Phase I of the campaign, which was designed to win farmers back from their "absentee-landlord" attitude to their rubber farms which has resulted in the devastation of their trees by itinerant Rubber Tappers, gathered momentum and the following numbers of farmers were trained in various aspects of rubber production and processing.

	No. of farmers trained	
	1958- 59	*Total to date*
Tapping	13,442	19,035
Cultivation and Maintenance	571	571
Processing	1,480	4,065
Total	15,493	23,671

All but 1,346 of these farmers have been trained in Benin and Delta Provinces.

60. Demonstration and training in processing was started in six model small-holder factory units adapted from a design recommended by the Rubber Research Institute of Malaya. These have been maintained as demonstration units and now, owing to the interest aroused, training is usually done over a period in factory units erected by groups of small-holders themselves under Ministry supervision. Material for a permanent roof and equipment for processing are supplied under a loan scheme operated by the Association of Nigerian Co-operative Exporters. A number of individuals owning larger farms have also established factory units of the new type. These small factories are capable of handling up to one ton of sheet rubber per week. Numbers of the new types of factory-unit in operation are—

	Benin Circle	*Akure Circle*	*Total*
Group factories	48	2	50
Individually-owned factories	25	8	33
Total	73	10	83

61. The Rubber Improvement Campaign has stimulated considerable interest in the establishment of farms using improved planting material. Sources of supply of improved seed are limited, however, and few clones have been proved under local conditions. Steps have been taken to establish eight rubber seed gardens with clones approved by the Rubber Research Institute of Malaya pending the evaluation of variety trials to be conducted locally. Meanwhile only a single hybrid is available locally, namely, PB86 × PB24, and 94,022 seedlings were raised and sold to farmers in 1958 at $1\frac{1}{2}d$ each. A further 283,000 seedlings have been established for distribution in 1959. A spacing of 30 feet × 7 feet is being recommended and farmers are assisted with the lining-out of their farms and taught how to plant the seedlings and maintain them.

62. The majority of farms have been almost completely ruined by bad tapping and in some areas, particularly Benin Division, unused land is scarce, thus the establishment of new farms will involve the eradication of the old. A scheme for assisting farmers with rehabilitation is in preparation.

(*v*) Cotton

63. The demand for cotton seed for inter-planting with food crops in the savannah areas continues to be strong. An attempt is being made to increase the quantity of pure or nearly-pure Ishan seed available for issue to farmers, in order to make it possible for them to qualify for the higher price paid for the Ishan seed cotton with a low percentage of "native". Two methods are being employed to do this:

(*i*) Increasing the yield of pure Ishan cotton planted in the isolated special areas at Meko in Egbado Division by spraying to control pests.

(*ii*) In certain selected areas, carefully roguing fields planted with seed produced by ginning Ishan seed cotton bought from farmers, in order to ensure, as far as possible, the production of pure Ishan seed.

(*vi*) Coffee

64. Seedling distribution in 1958-59 was as follows:

Ibadan Circle...	390
Abeokuta Circle	1,481
Akure Circle	23,277
Benin Circle	60
Total	25,208

(*vii*) Citrus

65. The numbers of seedlings distributed in various areas during the year are shown below—

	Ibadan Circle	*Akure Circle*	*Abeokuta Circle*	*Benin Circle*
Sweet Orange	3,180	4,849	8,133	7,111
Grapefruit	2,890	433	1,134	300
Lemon	74	91	244	16
Tangerine	—	133	—	77
Narel Orange	—	32	—	—
Lime	—	—	45	—
Total	6,144	5,538	9,556	7,504

Owing to the unfavourable planting weather during 1958, the demand for citrus seedlings was comparatively low. A total of 57,825 seedlings, mainly sweet orange and grapefruit, have been established during the year for sale during the planting season of 1959.

(*viii*) Coconuts

66. The only activity in connection with coconuts during the year was the sale of seedlings grown from selected seeds at subsidised prices in areas of demand as follows:

Abeokuta Circle	10,588
Ibadan Circle	1,258
Ondo Circle	1,337
Total	13,183

Probably the most important factor determining the quality of the copra produced is the inadequacy of existing methods of drying, particularly during the wet season. Attempts are being made to obtain designs of cheap driers which have been shown to be suitable for small-scale production elsewhere, with a view to undertaking trials here.

The Cage Hand-press being used for extracting palm oil.

One of the traditional methods of palm oil extraction in a canoe-shaped trough

A severely damaged cocoa farm being sprayed to destroy capsid.

A Co-operative factory for rubber sheet production.

Young Pods on a plant of "Amazon" cocoa at 2 years old.

Mature pods on mature amelonado protected against Black Pod disease, by spraying.

(*ix*) Food Crops

(*a*) General

67. The Irrigation Engineer who was engaged to study the possibilities of irrigation in the Western Region, submitted his report during the year and his recommendations are being studied. Mr Redford has drawn attention to the fact that there are indications that the natural water resources and ecological balance of the Region may be deteriorating and has recommended a fuller investigation. After investigation of a number of sites he has made preliminary recommendations on sites which may repay further investigation for the large scale cultivation of sugar cane or rice under irrigation, and also for general development in the savannah areas.

68. A regular collection of prices obtained by producers at certain selected markets distributed throughout the Region was made during the year on behalf of the Ministry of Economic Planning, who are responsible for their collation and interpretation.

(*b*) Maize

69. Regular topical agronomic advice relating to time of planting, spacing and selection of seed for planting was given to all farmers during the year. An effort is being made to solve the problem of storing maize from the main crop (harvested July) in order to reduce the losses which are at present caused by mould and insect damage. These heavy losses, due to the high moisture content of the grain at harvest, force all producers to sell their surplus shortly after harvest and increase the cost of marketing because maize falls into the category of being a perishable commodity. In a trial at Ilero in Oyo Province 31.4 tons of 1957 maize was dried and stored in August and sold in May 1958. The loss of weight in drying and handling was 4.5 tons but a profit exceeding £6 per ton was made after deducting the cost of drying, handling and transport. This trial will be extended in 1959, when it is planned to compare various methods of artificial drying, *e.g.*, "in-bin" and "in-tray", using mobile driers of a type which would be suitable for serving co-operative groups scattered over a fairly large area. The problems of maize seed storage are also being studied. It is important to be able to store seed selected from the early crop for use in planting the next early crop, eight months later.

70. A new variety of maize, "Mexico I", bred by the West African Maize Research Unit, was bulked and distributed to a limited number of farmers for trial plantings.

(*c*) Rice

71. Four Co-operative Societies in Oyo Division took advantage of tractor hire services operated by the Ministry to cultivate rice in small inland swamps. Owing to lack of rain yields were low.

(*i*) *At Okeiho.*—60 acres were ploughed and harrowed but only 45 acres were planted. A total of 16,264 lbs of paddy was produced, *i.e.*, 361 lbs per acre. Forty acres have been prepared for planting in 1959.

(*ii*) *Shaki and Ago-Amodu.*—These societies with fifteen members each planted 30 and 45 acres respectively. The total yield at Shaki was 10,980 lbs or 366 lbs per acre while at Ago-Amodu 18,322 lbs was produced, *i.e.*, a rate of 407 lbs per acre. These yields were only 40 per cent of the 1957 yields but the poor results can be attributed mainly to unfavourable weather.

(*iii*). *Agberi.*—The Agberi swamp is entirely dependent on direct rainfall for its water supply, unlike the Oyo swamps which are supplied by extensive catchment areas, and consequently the lack of rain in July and August resulted in complete failure of the rice crop.

(iv) Varietal Multiplication

72. Two varieties from the Rice Research Station at Badeggi were planted at Ago-Amodu and Shaki in order to bulk seed for distribution. Yields were low : *Kav 12* gave only 162 lbs of paddy from 1.6 acres and G. 79 only, 474 lbs from 1.2 acres.

(v) Mangrove Swamp Development

73. A pilot scheme using Mangrove Swamp areas for the production of rice was started on the Forcados Road Swamp near Warri. Previous small scale trials by Captain Dawson in 1936 indicated that yields of 3,000 lbs per acre of dry paddy are possible in these swamps. Cutting of initial traces through the high and very dense mangrove commenced in January 1959 and by the end of March, twenty-four acres of mangrove had been felled in preparation for planting up to twenty acres of paddy in June. The area was divided into 2-acre blocks, 88 yards by 110 yards, and a daily task of 15 yards by 15 yards per man was followed. The average cost of felling one acre of mangrove on the scheme to date has worked out at £7. The cost of stacking the debris and burning was £3 per acre.

(*d*) Yams

74. The effect of fertilisers on the yield of yams was studied in a number of experiments conducted on behalf of the Research Division in all Circles.

75. Following promising experiments on the control of yam beetles by the use of Gammalin A, a number of trials were undertaken on farmer's plots in Akure and Benin Circles and farmers were invited to witness the results at the time of harvest. Although the incidence of yam beetles in 1958 was low, the control on the treated plots was sufficient to arouse the interest of farmers. Considerable sales of Gammalin A dust, now being offered by commercial interests, is reported.

(*x*) Seminars and Conferences

76. Extension Division was represented by Messers W. V. Rose and J. A. Makinde at the First Technical Cocoa Conference of the Food and Agriculture Organisation which was held in Accra in February 1959.

77. Western Nigeria has been selected as the venue for the First F.A.O. Conference on Agricultural Extension, which is to be held in Ibadan in July 1959. The local arrangements for the conference are being undertaken by the Director of the Extra-Mural Department of the University College, of Ibadan.

G.—SETTLEMENT SCHEME

78. The twenty-two settlers at the Upper Ogun have never been contented because of their isolated position and the difficulty in obtaining transport to visit their relatives. When the opportunity arose during the year for them to disband, all but four seized the opportunity. It is encouraging that all but two of the twenty-two have expressed a wish to continue with the type of life to which they were introduced at Upper Ogun and they have decided to settle nearer their homes as follows:

Iseyin-Oyo Road	5
Iseyin-Shaki Road	1
Ilora	2
Ijaiye Road (Ilora)	4
Olun	4
Upper Ogun	4
Total	20

79. The following small settlements were continued during the year:—

Location	*Number of Settlers*
Iseyin	2
Ilora	3
Okeho	5
Ilero	2
Kishi	2
TOTAL	14

The arable area in each of these settlements is cropped on the basis of five years of cropping with the addition of farmyard manure by fly-penning, followed by three years of rest under a grass fallow. Each settler is responsible for a total of 6 acres consisting of $3\frac{3}{4}$ acres of arable and $2\frac{1}{4}$ acres of fallow. The crops grown in 1958 were sorghum, yams, early maize, cowpeas, and cassava.

80. In addition to the arable acreage the settlers undertake cattle rearing. In March 1958 each settler received 3 cows and 1 bull, and 4 work bullocks were allocated to each settlement. The numbers at the end of the year were as follows:

	NUMBERS OF CATTLE			
Settlement	*Male*	*Female*	*Calves*	*Total*
Iseyin	5	6	5	16
Ilora	5	9	7	21
Okeho	5	15	11	31
Ilero	5	6	3	14
Kishi	5	6	4	15

81.—*Ogbomosho Farm Settlement.*—An important development during the year was the solution of the problem of the high rate of mortality which has occured among the cattle at Ogbomosho ever since the scheme was started. The high mortality has been due to the somewhat unusual occurrence of *Trypanosoma congolense* at Ogbomosho; and cattle brought in from other parts of the Region, where T. vivax is the common species, have not possessed any immunity to the former, and have succumbed. As a result of protection of the cattle with Antrycide and the selective clearing of the settlement to eradicate habitats which have harboured the tse-tse fly, mortality during the year was reduced to 2 adults and 6 calves. The general condition of the cattle has been improved by regular dipping, which has been made possible by the construction of a dip by the settlers.

The sheep continued to do well and the flock increased to forty-nine during the year. Owing to the frequency of damage to crops the settlers have decided to dispose of the flock.

Thirty-six young turkeys were purchased and fattened for sale in December. Six birds died but the balance averaged 45*s* each and a gross profit of £42 was made.

Seventy-two acres of maize were planted for the early crop and 71 acres for the late crop. The weather adversely affected yields which were approximately 1,100 and 750 lbs of dry cobs per acre. Small acreages of yams and sorghum were produced for subsistence. Yields were fair.

H.—CROP PROCESSING

82. Please see details under the individual crops.

I.—AGRICULTURAL ENGINEERING AND MECHANISATION

83. In the absence of an Agricultural Engineer, following the departure of Mr F. M. Inns in September 1958, it was not possible for the Engineering Section to expand its development activities.

84. The Section continued to be responsible for the repair and maintenance of the vehicles and tractors operated by the Agricultural Divisions of the Ministry as well as for Livestock and Forestry Division vehicles. There was thus an increase in the numbers of these vehicles handled for this reason, and also owing to the reorganisation of the Extension Division and the increase in its activities.

85. The services of mechanised units for cultivation were provided on hire to five groups of farmers cultivating swamp rice in Oyo and Ibadan, to the six small settlements in Oyo and for the trial of maize storage at Ilero.

J.—EXTENSION ACTIVITIES WITH LIVESTOCK

(*a*)—Poultry

86. The breeding and selection of Rhode Island Red poultry continued at Fashola. These birds are maintained at Fashola until they are four months old, inoculated against Newcastle Disease, Fowl Pox and Fowl Cholera and then sent to Extension Division Stations where, after a brief period for acclimatisation, they are sold to farmers at subsidised prices. A total of 2,436 pullets and cockerels were distributed to farmers under this scheme.

87. In Agege and Ikeja, about twenty individuals or companies have established poultry farms for the production of eggs and table birds for sale in and around Lagos. Some of these operate on a small scale but three farms had more than 600 laying hens during the year and one had over 1,000. The majority of these farmers follow the advice of extension officers who pay regular visits to the farms and they use the balanced poultry mash produced by the Ministry at Agege Dairy.

88. These farmers purchased 7,404 day-old chicks from the Ministry during the year. A number of these day-old chicks were imported from the United Kingdom and sold to the farmers at subsidised prices since the production from Fashola fell short of demand.

89. A number of outlying stations maintained small flocks of birds for demonstration purposes. Selected eggs produced by these flocks were available on sale to farmers for hatching. A total of 1,993 eggs were disposed of in this way.

90. A number of farmers in various parts of the country, but mainly those engaged in or contemplating large scale production, sent their employees to Ministry stations during the year to undergo periods of training.

(*b*)—Cattle

91. The privilege of having the use of an Ndama Bull free of charge continued to be extended to organised well-maintained herds. The object is the upgrading of the indigenous short-horn cattle of the Muturu breed to the Ndama type, which is a larger animal of good conformation which is tolerant to trypanosomiasis.

92. The majority of Ministry stations maintained herds of Ndama work oxen to demonstrate the use of these animals for draught purposes and for cultivation.

K.—AGRICULTURAL SHOWS

93. The *Abeokuta Provincial Agricultural Show*, which is held in Abeokuta and Ilaro in alternate years, was this year held at Abeokuta on 6th December, 1958 under the Chairmanship of Chief the Honourable G. Akin Deko, Minister of Agriculture and Natural Resources, supported by Chief the Honourable D. S. Adegbenro, Minister of Local Government, who opened the Show. Among the distinguished visitors to the show was Sir George Mooring, the Deputy Governor. The exhibits, which totalled 1,674, were of a high standard, although some classes of exhibits, *e.g.*, yams, did not attain their usual standard because of the period of dry weather earlier in the year.

94. The fifth *Ife/Ilesha Agricultural Show* was held at Ife in 1958 having been held at Ilesha in the previous year. The Chairman for the occasion was His Highness, the Oni of Ife, Sir Adesoji Aderemi, K.B.E., C.M.G. The show was officially opened by His Highness the Owa of Ijeshaland. The standard of the exhibits was high and the attendance good.

95. The fourteenth *Oyo Agricultural Show*, which was held at Oyo on the 9th and 10th of January, 1959, was opened by His Honour Sir George Mooring, C.M.G., Deputy Governor, under the Chairmanship of Chief the Honourable G. Akin Deko, Minister of Agriculture and Natural Resources and the patronage of Oba Alaiyeluwa Bello Gbadegeshin Ladigbolu II, the Alafin of Oyo. His Excellency the Governor Sir John Rankine, K.C.M.G., K.C.V.O., attended in the afternoon of the 10th and gave the closing speech. The prizes, cups and shields were distributed by Lady Rankine.

The attendance is considered to have broken all previous records. The best crop and prepared produce exhibits from preliminary heats, which were held at eight centres in Northern Oyo, were assembled with those from Southern Oyo for final judging on the second day of the show. It is estimated that the number of exhibits was about 10 per cent higher than in the previous year.

Educational exhibits were displayed by the Ministries of Agriculture, Health and Social Welfare, Lands and Labour, Trade and Industry and Education and the Faculty of Agriculture of University College, Ibadan.

L.—AGRICULTURAL CREDIT

96. The funds for the provision of loans for agricultural development are administered by the Finance Corporation, which is also responsible for the granting of industrial loans. Apart from "major agricultural loans", which are handled directly at the headquarters of the Corporation, loans for agricultural purposes are administered through a number (209) of Local Loans Boards which operate in well-defined rural areas with the assistance of Loan Clerks who are employed by the Finance Corporation. The agricultural aspects of applications for loans are examined by Extension Division staff, while the value of securities and credit-worthiness are examined by the staff of the Corporation. Loans are available for the following purposes:—

(*i*) Cocoa Planting,

(*ii*) Food crop production,

(*iii*) Purchase of insecticides for spraying cocoa against capsids.

(*iv*) Purchase of fungicides for control of Black Pod disease of cocoa.

(*v*) Purchase of spraying pumps for Capsid and Black Pod control.

Apart from the loans for cocoa planting, the repayments of which do not commence until the cocoa comes into production, all the loans enumerated are repayable in the year in which they are granted.

97. The demand for small seasonal food crop loans is very great and the number granted annually is considerable. It is clear that the administration of these seasonal loans and the yearly increasing demand for development loans for other purpose, *e.g.*, cocoa planting and cocoa spraying, is placing an intolerable strain on the present organisation. If the facilities are to meet these demands as well as those impending for other forms of agricultural development, *e.g.*, rubber and oil palm planting and processing, the scope of the present organisation will require to be considerably increased.

M.—AGRICULTURAL STATIONS AND DEMONSTRATION FARMS

98. A number of agricultural stations varying in size from 40 to 140 acres are maintained in different parts of the Region for a variety of purposes. A number of the larger stations serve as distribution centres for improved cattle, poultry and planting material, as centres for the demonstration of improved agricultural practices and varieties and also as zonal experimental stations for the conduct of experiments and observations, under ecological conditions representative of the area in which the station is situated. Stations which fall into this category are—

(*i*) *Effurun.*—near Warri—headquarters of the Agricultural Officer for Delta Province.

(*ii*) *Irrua.*—headquarters of the Agricultural Officer for Ishan Division.

(*iii*) *Ekiti.*—near Ado-Ekiti, the headquarters of the Agricultural Officer for Ekiti Division.

(*iv*) *Illele.*—near Auchi, the headquarters of the officer in charge of Afenmai Division.

In their experimental functions these stations are complementary to the Experimental Stations operated by the Research Division at Ilora (Oyo Province) and Agege. (Colony Province) and the School Farm at Akure.

Experiments conducted during the year on the above-listed stations included—

(*i*) Variety trials on maize, cassava and groundnuts,

(*ii*) Experiments on groundnut spacing,

(*iii*) Comparison of the effect of different rates of application of farm-yard manure on the yield of yams.

Observations on the long-terms effect of continuous cropping under various combinations of crops in rotation were continued, as well as observations on the local behaviour of new introductions, *e.g.*, congo cassava, Piper nigrum, Sorghum and Sunn Hemp.

99. Other stations known as Farm Centres undertake the distribution of improved cattle and poultry, and demonstrate improved practices. Farm Centres are situated at—

(*i*) Kwale in Aboh Division, Delta Province;

(*ii*) Owo in Owo Division, Ondo Province;

(*iii*) Ikare in Owo Division, Ondo Province;

(*iv*) Ondo in Ondo Division, Ondo Province;

(*v*) Okitipupa in Okitipupa Division, Ondo Province;

(*vi*) Shagamu in Ijebu-Remo Division, Ijebu Province;

(*vii*) Ilora in Egbado Division, Abeokuta Province;

(*viii*) Ipokia in Egbado Division, Abeokuta Province.

Since these stations have to adopt a permanent system of agriculture many of the practices are not yet applicable on the local farms on which shifting cultivation is still the rule. Fertility is maintained by the use of rotations incorporating the use of Velvet Beans (Mucuna) as a green manure and by the application of farmyard manure. Soil erosion is eliminated by the use of narrow-based terraces and contour planting ridges. Apart from ridging, which is gradually spreading, the need to use these practices has not yet been felt by the local farmers. However, valuable experience and a fund of knowledge of the reaction of local soils to permanent husbandry are being obtained and reliable information about the timing and cost of various agricultural operations. The value of these stations for the conduct of training courses for staff and farmers is also

considerable. Unfortunately, even in the high-rainfall areas, none of these stations at present demonstrate the cultivation of permanent tree crops and the processing of the produce. Proposals have been approved for increasing the number of stations, so that there will be at least one for each Division, and increasing their size, where necessary, so as to accommodate tree crops.

100. A number of small Government-owned or leased plots are maintained for specific purposes. At Oyo, Agbor and Moor Plantation, nurseries are cultivated for the supply of improved seedlings of economic crops and fruit trees to the public.

101. Near Warri an island in the river known as the "Residency Swamp" is used for experiments and trials on swamp rice.

N.—INVESTIGATIONS

102. A number of experiments have been undertaken by the staff of the Extension Services Division, either on agricultural stations or on selected private farms, on behalf of the Western Region Research Division, the Federal Department of Agricultural Research or one of the West African Research Units. The data from the experiments were sent to these organisations for statistical analysis. Detailed reports will be found in their annual reports.

(*a*) Maize

103. (*i*) Variety trials comparing the yields of twelve exotic varieties of maize with the local were conducted at Effurun, Irrua, and Ekiti on behalf of the West African Maize Research Unit.

(*ii*) Comparisons of the local maize with *Mexico I* and *Mexico V* varieties of maize were undertaken at Irrua and Illele. At both sites Mexico V proved to be the superior yielder.

(*iii*) Preliminary observation of the efficiency of "Agroxone 4" used as a pre-emergence spray, in controlling weeds in maize, gave promising results at Ilaro, but at Ipokia where the chief weed is a species of Commelina, control was not satisfactory.

(*v*) A trial to determine the response of Mexico V and local maize respectively to different levels of farm-yard manure and artificial fertiliser, alone and in combination, was undertaken at Sobe in Owo Division on behalf of the Western Region Research Division.

(*b*) Yams

104. (*i*) *Control of Yam Beetle*—A number of experiments were undertaken on behalf of the Senior Entomologist of the Agricultural Research Department of the Nigerian Federal Government. One trial at Effurun compared the efficiency of dusting the yam sets before planting with *Gammalin 2*, *Agrocide 7*, *Adrin 2.5 per cent* and *Chlordane 5 per cent* as a means of controlling Yam Beetle. Another trial at Ondo did not include Gammalin but used instead *Aldrin* emulsion, sprayed into the planting hole before planting and on the hill after planting. The trials will need to be repeated before firm conclusions can be drawn.

(*ii*) Trials using Gammalin A for controlling yam beetle on private farms were undertaken as follows:

Ughelli	10 trials
Benin Division	15 trials
Ondo Division	11 trials
Ijebu Province	3 trials

Results were very variable.

(*iii*) Four trials for testing the effect of using—

(*a*) Dieldrin 2.0 per cent

(*b*) Chlordane 5 per cent

(*c*) Agrocide 7

(*d*) Endrin 2 per cent

(*e*) Aldrin 2.5 per cent

for the control of yam beetle on *Water Yams*, was laid down in Urhobo Division in December 1958. The results are not yet available.

(*iv*) *A time-of-planting* trial on yams at Sobe in Owo Division indicated that earlier planting of yams than is the usual practice in that area would give increased yields. This experiment was carried out this year for the first time and will need to be repeated.

(*v*) *Fertiliser Trials.*—(*i*) Preliminary trials at Akugbe in *Benin Division* to observe the effect of applying one cwt of Sulphate of Ammonia to yams in March indicated that economic returns might be obtained. Similar promising indications were obtained in trials at *Effurun* and *Irrua* where a fertiliser mixture consisting of one cwt each of sulphate of ammonia, sulphate of potash and superphosphate was applied to yams with or without farmyard manure.

(*ii*) Trials on twenty-four yam farms in Meko District of Egbado Division in which one cwt of sulphate of ammonia was applied to yams were inconclusive. This is thought to have been due to the drought which affected yams very severely in that area.

(*c*) Cassava

105. A variety trial comparing five new selections (53101, 55141, 55106, 43053, 42074) with the commonly grown local variety was undertaken at Effurun Farm on behalf of the Senior Botanist of the Federal Department of Agricultural Research.

(*d*) Rice

106. *Manures and Fertilisers.*—At the request of the Chief Agricultural Research Officer, an experiment was undertaken at Irrua and Illele to determine the effect of farmyard manure applied at four levels, *i.e.*, two tons, four tons and eight tons per acre and at four tons per acre with the addition of a mulch of grass, with and without artificial fertiliser in each case. The artificial fertiliser consisted of one cwt each of sulphate of ammonia, sulphate of potash and superphosphate. The test crops at both sites were maize, yams and cowpeas.

(*e*) Cocoa

107. Experiments were laid down on private farms at *Ikerre*, *Aponmu* and *Ilesha* to compare the efficiency of five different fungicides in the control of Black Pod disease of cocoa. Carbide Bordeaux mixture and Perenox proved to be comparable and most effective.

O.—PESTS AND DISEASES

(*a*) Swollen Shoot Disease of Cocoa

108. There are two areas, one each in Ibadan and Abeokuta Provinces, known as the Areas of Mass Infection, within which the swollen shoot disease is so widespread that cutting-out has been stopped and the disease is being allowed to spread unchecked. The Ibadan Area of Mass Infection was declared in 1950 and that in Abeokuta in 1953. Around each of these areas an area of intensive survey or "cordon sanitaire" has been demarkated. It is the policy to inspect all cocoa within these areas of intensive survey at intervals of six months, with the exception of cocoa surrounding areas where swollen shoot has been detected, and the infected and contact trees removed, where inspection is at intervals of three months.

109. An adjustment of the boundary of the Ibadan Area of Mass Infection was made during the year so as to include an area of heavy infection in Area 16 east of the old boundary.

110. The treatment to be given when "outbreaks" of swollen shoot are discovered anywhere outside the Areas of Mass Infection was modified during the year. The new system, based on research undertaken by the Ibadan Sub-station of the West African Cocoa Research Institute, is now as follows:

(*a*) Where the number of infected trees is less than ten, the infected trees are uprooted and surrounding cocoa similarly treated to a distance of five yards from the nearest infected tree.

(*b*) Where the number of infected trees is between ten and fifty the same procedure is applied except that the surrounding cocoa is uprooted to a distance of ten yards from the nearest infected tree.

(*c*) Where the number of infected trees exceeds fifty, the infected trees and all "contacts" within fifteen yards are uprooted.

Coppicing of "contact" trees not showing symptoms has been discontinued.

111. Now that means of controlling capsid attack are available, it is clear that the strains of the Swollen Shoot Virus commonly occurring in Nigeria are not lethal in the absence of other debilitating factors, and that some yield can be expected from infected trees if capsids are controlled. This has resulted in a change of policy towards the Areas of Mass Infection and farmers within the Area are now being encouraged and trained to spray their cocoa against Capsids and Black Pod Disease.

112. *Organisation of Cocoa Survey.*—In an attempt to increase the efficiency of the system of surveying for the detection of swollen shoot, a new technique was tried out during the year. Under the existing system the survey is undertaken by a number of teams of twenty Field Overseers or Special Labourers under the supervision of a Grade I Field Overseer who is in turn responsible directly to the agricultural officer in charge of the Division. This year it was decided to investigate the feasibility of providing closer and more responsible supervision by using gangs of 100 men under the supervision of more responsible field staff in the form of Agricultural Development Officers. One such team was organised and has undertaken a survey in Area 16 east of the Ibadan Area of Mass Infection. It is now clear, after this period of trial, that a large number of outbreaks were being missed under the old system and that the method under trial will have a much greater chance of achieving the level of efficiency in detecting outbreaks which is essential for the control of the spread of swollen shoot. Subsequent surveys using this system in Area 13 and 17 have confirmed this view but it is obvious that the number of men in a gang will need to be reduced.

113. Eighty-nine new outbreaks were discovered during the year and ninety-three extensions of old treated outbreaks. Of this number sixty new outbreaks and twenty-five extensions were detected by the new gang working in Area 16. A total of 44,779 trees (infected and contacts) were cut out during the year and £8,955 16*s* 0*d* paid in compensation. The rate of cutting-out since 1947 is shown in Appendix V.

(*b*) Cushion Gall

114. Cushion Gall Disease of cocoa, not previously recorded in Nigeria, was found on Amazon cocoa growing at I.N.A. Cocoa Experimental Farm in March 1958.

(*c*) Bacterial Stalk Rot of Maize

An outbreak of Bacterial Stalk Rot occurred on maize growing on Moor Plantation near Ibadan. The disease was confined to varieties derived from maize originally introduced from Central America in connection with the programme of breeding for resistance to Maize Rust. All infected plants were destroyed and steps taken to ensure that the disease does not spread.

SENIOR STAFF DISPOSITION AT 31ST MARCH, 1959

Headquarters:

W. V. Rose: Chief Agricultural Extension Services Officer
R. E. Rowe: Principal Agricultural Officer
T. S. B. Aribisala: Principal Agricultural Officer

Abeokuta Circle:

Officer-in-Charge	P. Bradshaw	Senior Agricultural Officer
Ijebu Province...	A. Osobu ...	Agricultural Officer
Egba Division ...	A. M. A. Afinni	Senior Agricultural Superintendent
Egbado Division	F. A. Teriba...	Agricultural Officer
Colony Province	F. A. Roberts	Senior Agricultural Superintendent

Akure Circle:

Officer-in-Charge	M. A. Akintomide	Senior Agricultural Officer
Ife/Ilesha Division	J. A. Eweka ...	Agricultural Officer
Ondo/Okitipupa Division	J. L. Anderson	Agricultural Officer
Owo Division ...	F. O. Olagbaju	Senior Agricultural Superintendent
Ekiti Division ...	F. M. Barrett	Agricultural Officer

Benin Circle:

Officer-in-Charge	J. A. Makinde	Senior Agricultural Officer
Benin Division	F. C. Okpaise	Agricultural Officer
Asaba Division	R. S. M. Ezem	Senior Agricultural Superintendent
Ishan Division	I. J. Oruwari	Agricultural Officer
Afenmai Division	M. K. Falode	Agricultural Officer
Delta Province...	C. E. Metcalfe	Agricultural Officer

Ibadan Circle:

Officer-in-Charge	J. D. Harris ...	Senior Agricultural Officer
Ibadan (West) ...	M. B. Tella ...	Agricultural Officer
Ibadan (East) ...	S. A. Amole ...	Principal Agricultural Superintendent.
Ibadan (North)	J. J. Rae ...	Agricultural Officer
Oshun Division	R. B. A. Max-Lino ...	Agricultural Officer
Oyo Division ...	J. Waterworth	Agricultural Officer

On leave:

J. O. Akinwolemiwa: Agricultural Officer

S. K. T. Williams: Agricultural Officer

F. A. Adeyemi: Principal Agricultural Superintendent.

APPENDIX B

FARMERS TRAINED IN BLACK POD AND CAPSID SPRAYING

	CAPSID		*BLACK POD*		*TOTAL*	
	1958-59	*All years*	*1958-59*	*All years*	*1958-59*	*All years*
Benin-Delta Circle ...	1,353	3,438	1,068	3,352	2,421	6,790
Abeokuta-I j e b u-Colony Circle	1,020	2,657	870	2,961	1,890	5,618
Ibadan-Oyo Circle ...	3,888	6,901	1,505	5,652	5,393	12,553
Ondo-Ilesha Circle ...	22,056	42,599	18,366	50,007	40,422	92,606
TOTALS	28,317	55,595	21,809	61,972	50,126	117,567

APPENDIX C

GOVERNMENT AND FARMERS' COCOA NURSERIES, 1958-59 AND 1959-60

	Govt. Nurseries		*Farmers' Nurseries*		*Total*	
	1958-59	*1959-60*	*1958-59*	*1959-60*	*1958-59*	*1959-60*
Benin Circle	19	23	2	37	21	60
Abeokuta Circle	54	63	6	10	60	73
Ibadan Circle	39	39	7	7	46	46
Ondo Circle	120	85	131	259	251	344
TOTAL	232	210	146	313	378	523

APPENDIX D

COCOA DEMONSTRATION PLOTS: UP TO MARCH 1959

	Capsid Spraying		Capsid Coppiced		Black Pod		Maintenance		Rehabilitation and Replanting	
	Number	*Acreage*	*Number*	*Acreage*	*Number*	*Acreage*	*Number*	*Acreage*	*Number*	*Acreage*
Abeokuta Circle	32	100	2	2	3	3	—	—	1	10
Benin Circle	4	9.1	—	—	4	5	2	3	—	—
Ibadan Circle	16	65	3	3	1	2	—	—	6	42
Ondo Circle	31	211	23	28.59	18	18	14	15	11	11
	83	385.1	28	33.59	26	28	16	18	18	63

APPENDIX E

DISTRIBUTION OF COCOA SEEDLINGS, 1958-59

	Number of seedlings distributed from Government Nurseries or grown in Private Nurseries	
Abeokuta Circle:		
Egba Division	226,234	
Egbado Division	139,679	
Ijebu Province	268,211	
Colony Province	8,241	
TOTAL		642,365
Ondo Circle:		
Ilesha Division	279,996	
Ife Division	154,151	
Ondo Division	421,382	
Ekiti Division	318,658	
Owo Division	306,164	
TOTAL		1,480,351
Benin Circle:		
Delta Province	18,353	
Benin Division	21,867	
Ishan Division	25,802	
Afenmai Division	22,126	
Asaba Division	17,533	
TOTAL		105,681
Ibadan Circle:		
Ibadan (West)	85,897	
Ibadan (North)	98,928	
Ibadan (East)	59,958	
Oshun Division	62,260	
Oyo Division	16,340	
TOTAL		323,383
GRAND TOTAL		2,551,780

APPENDIX F

COCOA PRODUCTION—WESTERN REGION

Season ending 30th August	*Main Crop*	*Light Crop*	*Total*
1943	94,457	3,852	98,309
1944	67,898	703	68,601
1945	81,679	659	82,338
1946	91,439	7,483	98,922
1947	101,802	5,935	107,737
1948	70,155	5,950	76,105
1949	99,094	5,639	104,733
1950	87,982	5,379	93,361
1951	101,788	4,420	106,208
1952	96,367	5,845	102,212
1953	97,128	4,848	101,976
1954	90,160	4,482	94,642
1955	71,373	11,439	82,812
1956	96,380	10,524	106,904
1957	1 5,149	3,365	128,514
1958	70,245	3,461	73,706
1959	123,860	—	—

APPENDIX G

AVERAGE COCOA PRODUCTION BASED ON FOUR-YEAR TOTALS

Buying Season ending 30th August	*Main Crop*	*Light Crop*	*Total*
1943-46	83,868	3,174	87,042
1944-47	85,704	3,695	89,399
1945-48	86,269	5,007	91,276
1946-49	90,622	6,252	96,874
1947-50	89,758	5,726	95,484
1948-51	89,755	5,347	95,102
1949-52	96,308	5,321	101,629
1950-53	95,816	5,123	100,939
1951-54	96,361	4,899	101,260
1952-55	88,757	6,653	95,410
1953-56	88,760	7,823	96,583
1954-57	95,765	7,453	103,218
1955-58	90,787	7,197	97,984
1956-59	103,908	6,236	110,144

COCOA TREES CUT OUT TO CONTROL SWOLLEN SHOOT DISEASE OF COCOA

Table I

THE NUMBER OF CUTTING OUT TREATMENTS CARRIED OUT OUTSIDE THE AREAS OF MASS INFECTION

Year	No. of Initial Treatments*	No. of Retreatment	All Treatment
1947	1	0	1
1948	1	1	2
1949	1	3	4
1950	6	4	10
1951	3	9	12
1952	14	6	20
1953	35	20	55
1954	15	23	38
1955	22	29	51
1956	28	60	88
1957	21	66	87
1958	89	93	182

* Number of villages around which outbreaks were found and treated for the first time.

† Number of villages where treatments were necessary and around which outbreaks had also been found in previous years.

Table IIA

THE NUMBER OF INFECTED TREES FOUND AND CUT OUT OUTSIDE THE AREAS OF MASS INFECTION

Year	Initial Treatments	Retreatments	All Treatments
1947	15	0	15
1948	11	3	14
1949	3	171	174
1950	292	184	476
1951	1,688	99	1,787
1952	1,687	147	1,834
1953	2,677	943	3,620
1954	1,218	1,788	3,006
1955	2,325	2,678	5,003
1956	8,552	3,851	12,403
1957	5,366	1,027	6,393
1958	908	3,616	4,524

Table IIB

Number of infected Trees and Contacts cut out Outside the Areas of Mass Infection

Year	Initial Treatments	Retreatments	All Treatments
1947	160	208,977	209,137
1948	127	312,652	312,779
1949	2,021	712,684	714,705
1950	4,003	275,524	279,527
1951	13,443	10,838	24,281
1952	29,718	20,649	50,367
1953	31,968	26,274	58,242
1954	23,368	24,099	47,467
1955	25,614	41,073	66,687
1956	50,133	41,018	91,151
1957	35,090	13,935	49,025
1958	8,509	20,323	28,832

RAINFALL FIGURES

	April		May		June		July		August		September		October		November		December		January		February		March		Total	
	No. of years Averages	*1958 Rainfall*	*Previous Average*	*1958 Rainfall*	*Previous Average*	*1958 Rainfall*	*Previous Average*	*1958 Rainfall*	*Previous Average*	*1958 Rainfall*	*Previous Average*	*1958 Rainfall*	*Previous Average*	*1958 Rainfall*	*Previous Average*	*1958 Rainfall*	*Previous Average*	*1958 Rainfall*	*Previous Average*	*1958 Rainfall*	*Previous Average*	*1958 Rainfall*	*Previous Average*	*1958 Rainfall*	*Previous Average*	*1958 Rainfall*	*Previous Average*
Shaki	16	2.80	3.51	4.33	5.99	3.63	6.06	0.00	6.20	0.80	6.31	6.34	5.64	3.65	5.73	0.36	0.83	0.00	0.18	0.75	0.12	1.72	0.98	2.65	1.20	26.31	42.79
Abeokuta	17	5.35	4.82	6.60	6.15	13.49	7.29	0.00	5.54	2.61	2.52	6.13	5.78	5.38	5.70	1.27	1.88	0.00	0.40	0.56	0.54	1.32	1.26	2.36	3.29	45.07	45.37
Fashola	10	7.36	4.40	4.77	6.20	3.06	6.60	0.06	4.70	1.94	2.30	8.60	7.80	7.36	7.60	3.75	1.90	0.18	0.40	0.06	0.50	0.87	1.10	1.92	3.60	39.93	47.20
Ibadan	48	2.28	5.42	6.79	5.98	8.22	7.01	0.15	5.68	2.01	2.96	3.03	7.01	9.31	7.00	2.22	1.89	0.00	0.28	0.03	0.05	0.51	0.52	2.40	3.73	37.05	48.03
Ilesha	16	5.54	4.72	4.01	7.12	5.30	6.07	0.33	7.15	2.62	3.63	9.28	8.57	8.93	8.48	3.22	2.64	0.37	0.25	0.81	0.30	2.08	0.87	3.36	2.56	45.96	52.41
Agege	31	4.05	3.91	7.92	8.06	10.22	10.22	0.05	7.17	0.70	1.97	7.57	5.81	5.12	7.28	4.70	3.12	1.47	1.01	0.00	0.83	1.59	1.54	4.52	3.55	47.91	54.46
Ado-Ekiti	23	6.31	4.71	4.16	6.22	6.54	6.81	0.33	5.22	2.72	3.49	13.15	8.98	9.67	7.05	3.21	2.88	0.96	0.56	0.17	0.41	1.96	1.24	2.71	3.88	51.89	51.44
Ijebu-Ode	22	2.17	4.95	6.99	7.94	10.83	9.27	0.00	9.26	2.41	4.26	11.21	7.84	6.75	8.47	3.02	2.76	1.02	0.49	0.09	0.53	0.90	1.75	1.19	3.66	46.58	60.70
Akure	27	4.24	5.58	3.15	6.94	10.00	7.87	0.47	7.36	2.35	4.56	7.26	8.23	5.23	6.92	2.48	6.73	1.44	1.00	0.61	0.51	0.63	1.41	2.50	4.13	46.36	61.30
Ondo	28	7.03	5.96	6.71	7.21	6.59	8.75	1.16	9.61	2.25	5.69	5.95	10.24	8.51	8.04	2.22	3.02	1.67	0.94	1.15	0.69	1.51	1.28	6.24	4.37	50.99	65.86
Irrua	6	2.48	6.75	6.69	7.49	11.86	8.59	0.80	8.40	2.15	7.79	8.75	12.82	7.46	10.57	1.20	1.21	1.12	0.45	0.38	0.45	0.60	1.12	5.65	4.64	49.14	71.27
Ubiaja	22	10.72	6.08	16.42	8.52	20.93	10.37	2.65	10.00	3.37	10.22	9.90	13.20	9.67	9.89	0.06	1.60	1.63	0.22	1.99	0.50	1.80	1.57	3.91	3.53	83.05	85.36
Ogba Farm Benin ...	35	11.64	6.65	16.22	7.61	15.87	11.96	1.21	15.89	6.00	8.11	10.91	12.87	5.82	10.42	1.83	2.88	0.70	0.65	0.00	0.76	1.94	1.57	1.13	4.04	73.27	86.93
Okitipupa	22	6.72	8.28	11.71	9.88	20.37	12.96	1.90	17.22	5.59	7.37	12.54	13.10	10.33	11.49	4.66	3.45	0.90	0.90	0.40	0.82	1.27	1.84	4.13	5.17	80.52	92.58
Effurun	4	13.62	8.57	10.53	9.51	12.87	16.48	5.47	19.61	11.67	11.66	13.35	19.75	10.51	13.07	8.09	4.05	3.90	2.30	0.11	1.33	0.48	2.40	8.18	5.35	98.78	114.45

IBADAN

Printed by the Government Printer, Ibadan, Western Nigeria 2185(61)/662/1,900